

REPRESENT

TEACHING RESOURCES AND ANSWER KEY

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AROUND THE WORLD

Current Affairs

This section shares content (stories about people/case studies/news events/books/movies/exhibitions) to spark readers' interest in the theme and to build students' knowledge of current affairs which can support them in essay writing.

LESSON IDEA:

Invite students to brainstorm about the most surprising science and technology developments they can think of. Discussions questions include:

1. (With reference to The Issue on pp. 4-5) What do you think Isaac Newton meant in this quote, "I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me." What do the pebbles and shells represent to him? What about the ocean? Do you think Newton expresses fear or excitement in this quote? Why?
2. (With reference to Around the World on pp. 6-11) Vote for which of these inventions you think is the most interesting! If you had a choice, which would you choose to participate in, and why? Which of these do you think has the most power to change society for the better? Why? How?

RESOURCES FOR FURTHER LEARNING:

- NEWS ARTICLE: 'He Jiankui defends "world's first gene-edited babies".' Robin Brant, BBC News, 28 Nov. 2018. Retrieved from: <https://www.bbc.com/news/world-asia-china-46368731>
- NEWS ARTICLE: 'Unrepentant Chinese scientist He Jiankui apologises for sparking global controversy.' Elizabeth Cheung, Alice Shen and Karen Zhang, South China Morning Post, 28 Nov. 2018. Retrieved from: https://www.scmp.com/news/hong-kong/health-environment/article/2175370/chinese-scientist-he-jiankui-apologises-says-he?utm_source=rssfeed-scmp-102080&utm_medium=Off-Platform-referrals&utm_campaign=Off-Platform-referrals
- NEWS ARTICLE: 'Love in another dimension: Japanese man "marries" Hatsune Miku hologram' The Japan Times, 12 Nov. 2018. Retrieved from: <https://www.japantimes.co.jp/news/2018/11/12/national/japanese-man-marries-virtual-reality-singer-hatsune-miku-hologram/#.XE5nK88zZbX>
- VIDEO (1min 42secs): 'The Impossible Shift: Juliana Chan.' Singapore EDB, 4 Nov. 2018. Retrieved from: <https://www.youtube.com/watch?v=VtZ6mDf5bBs>
- VIDEO (2mins 17secs): 'Singapore Youth Award 2013 Awardee - Dr Chan Shuping Juliana Maria.' NYC Singapore, 10 Jul. 2013. Retrieved from: https://www.youtube.com/watch?v=aOffZ1Pk_k8
- NEWS ARTICLE: 'The science of effective communication,' Bryant Chan, The Straits Times, 5 Oct. 2018. Retrieved from: <https://www.straitstimes.com/singapore/the-science-of-effective-communication>
- VIDEO (6mins 9secs): 'I Sell My Poop For \$7,000 A Year,' BuzzFeed Multiplayer, 7 Jul. 2017. Retrieved from: <https://www.youtube.com/watch?v=nN36TU6HV6o>
- NEWS ARTICLE: 'You can earn \$13,000 a year selling your poop,' Rachel Feltman, The Washington Post, 29 Jan. 2015. Retrieved from: https://www.washingtonpost.com/news/speaking-of-science/wp/2015/01/29/you-can-earn-13000-a-year-selling-your-poop/?utm_term=.7e96e5a6ec1e

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- ARTICLE: 'S.M. Entertainment and ObEN Form Joint Venture to Create the World's First Celebrity AI Agency,' ObEN Retrieved from: <https://oben.me/s-m-entertainment-and-oben-form-joint-venture-to-create-the-worlds-first-celebrity-ai-agency/>
- ARTICLE: 'A new virtual reality theme park is opening in Singapore,' Yee Xing, SG Magazine, 13 Nov. 2018. Retrieved from: <https://sg.asia-city.com/things-to-do-singapore/news/headrock-vr-sentosa>
- VIDEO (2mins 28secs): 'BIGBANG's Seungri In Singapore,' CNA Lifestyle, 16 Nov. 2018. Retrieved from: <https://www.channelnewsasia.com/news/videos/bigbang-s-seungri-in-singapore-cna-lifestyle-10936342>
- NEWS ARTICLE: 'Vertical farms on the rise in land scarce Singapore,' Bryna Singh, The Straits Times, 10 Jul. 2016. Retrieved from: <https://www.straitstimes.com/lifestyle/vertical-farms-on-the-rise-in-land-scarce-singapore>
- NEWS ARTICLE: 'Strawberries grown in Singapore vertical farm make debut,' Low De Wei, The Straits Times, 20 Jun. 2018. Retrieved from: <https://www.straitstimes.com/singapore/strawberries-grown-in-singapore-vertical-farm-make-debut>
- VIDEO (23mins 3secs): 'Made in Singapore Episode 2: Teching It Up,' CNA Lifestyle, 4 Sep. 2018. Retrieved from: <https://www.channelnewsasia.com/news/video-on-demand/made-in-singapore/teching-it-up-10682564>
- ARTICLE: 'Mix it up, Robot Bartender,' SUTD Office of Technology and Enterprise Management, 9 Jan. 2018. Retrieved from: <http://entrepreneurship.sutd.edu.sg/news-post/mix-robot-bartender/>

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THINKING SKILLS AND GAMES

Critical Thinking and Socio-Emotional Learning Section

This section highlights pertinent 21st century thinking skills that help students gain the vocabulary and skills needed to critically assess and make decisions on issues relevant to their lives.

SANDBOX LABORATORIES: A BETTER CHILD BY DESIGN

LESSON IDEA:

Sketching:

1. Sketch your ideal child! How would your ideal child look like? Why?

Discussion:

Invite students to discuss the content in 'Sandbox Laboratories: A Better Child by Design'. Thinking questions include:

2. Of the options for gene editing, which options would you choose and why?
3. Based on your answers, what do your choices tell you about your values? Do you agree?
4. The exercise suggests human test subjects for science experiments. Would you be open to participating as a human test subject for science? Why?
5. Designer babies used to be something only possible in science fiction. What other inventions from science fiction would you like to see becoming a reality? Why?
6. Do you think ethical codes are needed in scientific research? Why?
7. Share your bio-ethics report results with a partner. Discuss the following question (1 minute each):
 - a. If you were a chief science ethicist, what rules would you recommend to guide the genetic modification of babies?

ANSWERS TO VOCABULARY EXERCISE:

[a]: 1. Embryos

[b]: 5. Cosmetic

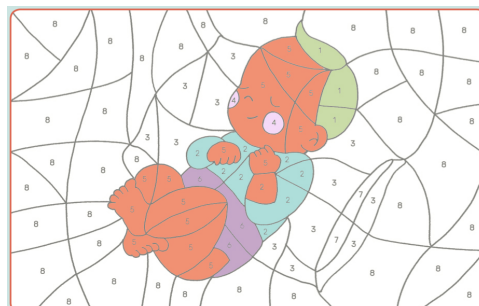
[c]: 2. Beneficiaries

[d]: 4. Hereditary

[e]: 6. Autonomy

RESOURCES FOR FURTHER LEARNING:

- VIDEO (3min 34secs): Animated clip on a young experience of medical research and an research ethics – 'Health research: making the for me' Nuffield Bioethics, 13 May 2015.



person's
overview on
right decision
Retrieved from:

https://www.youtube.com/watch?v=6yaKwLG_vIE

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ESSAY WRITING SKILLS

This section supports students in preparing for the requirements of the Cambridge O Level English 1128/01 Examination.

COVER STORY: PERSONAL RECOUNT

**Write about a time you invented something to help others.
What did you learn from the experience?**

This true story is told from the point of view of Isabel Lee, a 10-year-old girl from Singapore who wants to use technology to help her hearing-impaired friend and others like her in the special needs community. Isabel took on a Science Centre Challenge on social inclusivity in 2018 in order to do that. Here is Isabel with her mother:



LESSON IDEAS:

Invite students to share their opinions about inventions.

Thinking questions include:

1. Have you been to the Science Centre? There is a link to a video of the Tesla demonstration below. Watch this video with the sound muted. How would your experience be different if you could not see anything?
2. Have you benefited from any inventions?
3. How have recent scientific and technological inventions improved the lives of people around you?
4. Isabel turns to technology to solve the needs of her best friend. Do you know anyone around you in a similar situation? What solutions do you think can support them?

RESOURCES FOR FURTHER LEARNING:

- VIDEO (11mins 27secs): 'Singapore Science Centre Tesla Coil Demonstration.' Huai Wei Edmund Two, Youtube, 29 Jun. 2014. Retrieved from: <https://www.youtube.com/watch?v=ke6giOAFKoU>

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EXPOSITORY WRITING

How has science and technology impacted you and your community?

LESSON IDEAS:

Invite students to share personal stories and opinions related to how technological advancements have impacted their life. Thinking questions include:

1. Do you believe that science and technology is improving your society? Why or why not?
2. Summarise the main effects of technology proposed by the writers. Do you agree with the writers' views on the effects of technology? Can you think of other examples?
3. Do you agree with the conclusion proposed by the writers? Why?

Invite students to reflect on features of expository writing. Thinking questions include:

1. Expository essays often have a clear stand. Can you find the stand of the writer in this essay? Do you agree with this stand?
2. Can you identify examples of the following two expository writing language features in this essay?
 - a. Connectors: use connectors to show reason and choice.
 - b. Tenses: use simple present tense for points that are relevant to the present, and simple past or present perfect for personal recounts or events in the past.

<p><u>CONNECTORS</u> Use connectors to show reason and choice.</p>	<p><u>TENSES</u> Use simple present tense for points that are relevant to the present, and simple past or present perfect for personal recounts or events that have happened.</p>
<p>Search for examples of this in the essay!</p>	<p>Search for examples of this in the essay!</p>

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SUGGESTED ANSWERS

<p><u>CONNECTORS</u> Use connectors to show reason and choice.</p>	<p><u>TENSES</u> Use simple present tense for points that are relevant to the present, and simple past or present perfect for personal recounts or events that have happened.</p>
<p><u>EXAMPLES (This list is not exhaustive)</u></p> <ul style="list-style-type: none"> • “However” (Para 1) • “Firstly” (Para 2) • “Therefore” (Para 2) • “Moreover” (Para 3) • “especially” (Para 3) • “Thus” (Para 3) • “For example” (Para 4) 	<p><u>EXAMPLES (This list is not exhaustive)</u></p> <p><u>Present tense:</u> “However, science and technology <u>are</u> not always benign forces. We <u>spend</u> more time on our electronic devices at the expense of our health and well-being. This <u>is</u> because we <u>are</u> increasingly more attached to technology. For example, I <u>spend</u> a lot of time on my smartphone playing online games like Fortnite. My friends and I often <u>play</u> into the wee hours of the morning as we <u>are</u> absorbed and excited by our gameplay. As I <u>do</u> not get enough rest, I frequently <u>fall</u> asleep in class.” (Para 4)</p> <p><u>Past tense:</u> “During my school years, I <u>was</u> immunised for measles and polio. [...] The injections that I <u>received</u> were made possible by scientific discoveries by doctors.” (Para 1)</p> <p><u>Present perfect:</u> “Due to this, my grades <u>have fallen</u>. A local study by Nanyang Technological University <u>has found</u> that twelve-year-olds spend six and a half hours daily glued to their screens.” (Para 4)</p>

RESOURCES FOR FURTHER LEARNING:

- NEWS ARTICLE: ‘12-year-olds in Singapore spend 6½ hours daily on electronic devices: Survey,’ Calvin Yang, The Straits Times, 2 April 2017. Retrieved from: <https://www.straitstimes.com/singapore/glued-to-screen-for-612-hours-digital-habits-in-singapore>
- WEBPAGE: ‘All about Immunisation,’ Singapore Health Promotion Board. Retrieved from: <https://www.nir.hpb.gov.sg/nirp/eservices/allAboutImmunisation>

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Situational Writing

Seniors for Smart Nation: Write an email to recommend two courses to help your grandmother learn more about technology.

LESSON IDEA:

Introduce students to Singapore's Smart Nation initiatives, and invite them to share their opinions on IT-learning for the elderly. Thinking questions include:

1. The writer advises her grandmother to learn to use social media to connect with her family and friends. Are any of your grandparents on social media? Would you like to communicate with your grandparents through Instagram or Facebook?
2. "Seniors for Smart Nation" is part of Singapore's move to provide basic digital skills training for the elderly and help them stay updated in our digital age. Besides the courses listed in the visual prompt (page 29), what are some skills you think your grandparents/elders could benefit from learning?
3. We play an important role in encouraging our elders to adapt to the digital age. What are some ways you can help your grandparents/elders to learn digital skills?
4. Apart from the elderly, are there any others in your community who could benefit from such digital skills training?

RESOURCES FOR FURTHER LEARNING:

- WEBSITE: 'Seniors for Smart Nation,' People's Association. Retrieved from: <https://www.pa.gov.sg/our-programmes/lifskills-and-lifestyle/seniors-for-smart-nation>
- VIDEO (1min 6secs): 'Digital Inclusion: Silver Infocomm' IMDA Singapore, 22 May 2017. Retrieved from: https://www.youtube.com/watch?v=AoD3CWhkmUU&list=PLKpM5UNf5YCdq_dzzCe5S_dgdh4BgNC3m&index=8
- VIDEO (3mins 18secs): 'Digital Inclusion: Silver Infocomm Wellness Ambassadors 2018' IMDA Singapore, 4 June 2018. Retrieved from: https://www.youtube.com/watch?v=FSM_UdPTX0U&index=11&list=PLKpM5UNf5YCdq_dzzCe5S_dgdh4BgNC3m
- WEBSITE: 'Silver Infocomm' Info-communications Media Development Authority. Retrieved from: <https://www.imda.gov.sg/imsilver>
- VIDEO (3mins 50secs): 'My Smart Ahma #1' Smart Nation Singapore, 29 Oct 2018. Retrieved from: https://www.youtube.com/watch?time_continue=230&v=yiYyvxTHnps

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LANGUAGE SKILLS

This section supports students in preparing for the requirements of the Cambridge O Level English 1128/01 Examination.

Vocabulary

10 WAYS TO EXPRESS SURPRISE

LESSON IDEA:

Invite students to share their understanding of 'surprise'. Thinking questions include:

1. When faced with an unexpected situation, the shock we feel can be described as 'surprise'. Have you experienced examples of these vocabulary words or idioms? What turn of events would leave you baffled? What would startle you?
2. When you consider how science has progressed, what emotions do you feel about the rapid technological advancements happening around us?

RESOURCES FOR FURTHER LEARNING:

- VIDEO (19mins 21secs): 'Taken by Surprise: Tania Luna at TEDxTeen' TEDxTalks, 2 Apr 2013. Retrieved from: <https://www.youtube.com/watch?v=6JrbL4gBg-c>
- ARTICLE: 'Study: The Brain Likes Surprises,' Amy Malick, ABC News. Retrieved from: <https://abcnews.go.com/Health/story?id=116829&page=1>

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Oral Communication

English is Stress-ful

LESSON IDEA:

Invite students to select one short paragraph from the “Around the World” section. Using the three rules for adding stress, identify and underline the syllables or words to be stressed. Ask students to pair up with a friend to read their chosen paragraphs, and compare their different uses of stress.

RESOURCES FOR FURTHER LEARNING:

- VIDEO (4min 45secs): 'Introduction to Stress and Intonation - English with Jennifer.' JenniferESL, Youtube, 5 Jan. 2017. Retrieved from: <https://www.youtube.com/watch?v=klapQVNq3D4>
- WEBSITE (handouts, sound clips and exercises): 'Word Stress Rules: A Guide to Word and Sentence Stress Rules for English Learners and Teachers,' WordStress.info. Retrieved from: <http://www.wordstress.info/>
- ARTICLE: 'Language Matters: Studies in energy, history and language.' Peter McKenzie-Brown, Language Matters: Studies in energy, history and language, 9 Oct. 2006. Retrieved from: <https://languageinstinct.blogspot.com/2006/10/the-stress-timed-rhythm-of-english.html>

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Grammar Skills and Makeover

Answers to Grammar Skills and Makeover section:

Watch out! Some of the lines have homonyms, words that have the same spelling, but more than one meaning or word class.	1. NOUNS	2. VERBS	3. PRONOUNS	4. PREPOSITIONS
1. The <u>cat</u> pranced around the classroom, making us laugh.	✓			
2. I wound the bandage <u>around</u> my bleeding wound.				✓
3. The dump was so full that the workers <u>refused</u> to accept more refuse.		✓		
4. The robot was too close to the door to close <u>it</u> properly.			✓	
	5. ADJECTIVES	6. ADVERBS	7. DETERMINERS	8. CONJUNCTIONS
5. The tourists are confused <u>because</u> they have lost their way.				✓
6. Twenty impatient students are waiting to present <u>a</u> present to you.			✓	
7. The hungry dog paced around the room <u>agitatedly</u> .		✓		
8. When she saw the tear in her <u>beloved</u> painting, she shed a tear.	✓			

Look around your home. Some of the <u>thing</u> you might see include a television, a fridge, a toothbrush, a kettle, or even a teddy bear. The internet already <u>connect</u> people around the world, <u>although</u> with the development of the Internet of Things, objects in our homes can also be connected <u>at</u> the internet. Connecting all our things to the internet can bring us benefits. It can make our lives more <u>convenience</u> and simple. This means that your toothbrush can remind you when to brush <u>their</u> teeth, your kettle can tell you when it is time to <u>boiling</u> water, your fridge can tell you when it <u>was</u> time to buy more eggs, and your teddy bear can tell you when it <u>need</u> a hug. Things will be able to communicate with you even when you are not around, and you can control <u>this</u> things remotely through apps on your phone.	<ol style="list-style-type: none"> 1. things 2. connects 3. and/but 4. to 5. convenient 6. your 7. boil 8. is 9. needs 10. these
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Nature of correction:

1. things – noun, plural, referring to the items in the house
2. connects – SVA, agreement with ‘internet’
3. and/but – conjunction
4. to – preposition
5. convenient – adjective, modifying ‘lives’
6. your – pronoun, corresponding to ‘you’
7. boil – verb, infinitive form following ‘to’
8. is – verb, tenses

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9. needs – SVA, agreement with ‘it’

10. these – determiner, plural, referring to ‘things’

RESOURCES FOR FURTHER LEARNING:

- VIDEO: 'Basic English Grammar: Parts of Speech – noun, verb, adjective, pronoun, adverb...'
JamesESL English Lessons (engVid), 28 Jul. 2017, Youtube. Retrieved from:
<https://www.youtube.com/watch?v=SceDmiBEESl>
- WEBSITE: 'Parts of speech.' Online English Tools, 9 Jul. 2011. Retrieved from:
<http://onlineenglishtools.blogspot.com/2011/07/parts-of-speech.html>
- WEBSITE: 'The Eight Parts of Speech.' Butte College. Retrieved from:
http://www.butte.edu/departments/cas/tipsheets/grammar/parts_of_speech.html

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COMPREHENSION SKILLS

Expository Text Practice

Answers to 'Stranger Than Fiction'

1. Write down one word from Paragraph 1 that explains why the aircraft could fly at such a high speed. [1]

"sleek" (1)

2. In Paragraph 4, why did the same aircraft fly back in the opposite direction? [1]

The pilot had been lost and hence he turned back. (1)

3. In Paragraph 2, why was the event of the aircraft-sighting described as "frightening"? [2]

It was against the rules/an act of disobedience/rebellion for pilots to fly over the community (1), so people were afraid of the consequences of such an act (1).

Link answers to question - "frightening"

4. "'IMMEDIATELY,' the rasping voice through the speakers had said. 'LEAVE YOUR BICYCLES WHERE THEY ARE.'" (Paragraph 2)

- i) Explain how the use of capital letters reveal the tone of voice that came from the speakers. [1]

They show a domineering/demanding/controlling tone of voice. (1)

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ii) Who do you think represented this voice? [1]

People in authority/Leaders who controlled/ruled over the community. (1)

5. In Paragraph 3, the writer highlights a change in the neighbourhood where Jonas lived.

i) Identify this change that Jonas observed. [1]

It changed from a busy/bustling neighbourhood to a deserted one. (1)

iv) Explain how the language used in the paragraph highlights this change. Support your answer with two details from the paragraph. [2]

The first detail is "he had seen no people: none of the busy afternoon crew". The use of "no" and "none" emphasises the sudden lack of people from a normally "busy" scene. (1) The second detail is "saw only the abandoned bikes". This shows that many people used to cycle there but have since left their bikes and deserted the place. (1)

6. State two physical symptoms of fear that Jonas experienced in Paragraph 4. [2]

His stomach churned (1) and he trembled. (1)

7. Explain the irony in the speaker's tone in Paragraph 5. [2]

It is expected that the release of the pilot was good news and that there was no danger/harm done to the community (1), but the reality was unpleasant as the pilot would soon be punished severely. (1)

Must show contrasting expectation versus reality to explain irony.

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8. Why did Jonas smile even though he knew the pilot would be punished? [1]

He was relieved that no danger would come to him/that it was just an error by the pilot. (1)

9. “Even the children were scolded if they used the term lightly at play” (line 38). Explain why Jonas had been scolded. Answer in your own words. [2]

The word “released” was used by authorities to mean severe punishment for someone who broke the rules, (1) but Jonas had used it loosely or carelessly (1) with his friends, and hence was reprimanded.

10. The structure of the text reflects the emotions felt by Jonas. Complete the flow chart by choosing the most suitable expression from the box that summarises the main focus in each part of the text. There are some extra expressions in the box that you do not need to use. [4]

i) confusion and apprehension (1)

ii) fear and trepidation (1)

iii) momentary relief (1)

iv) sobering realisation (1)